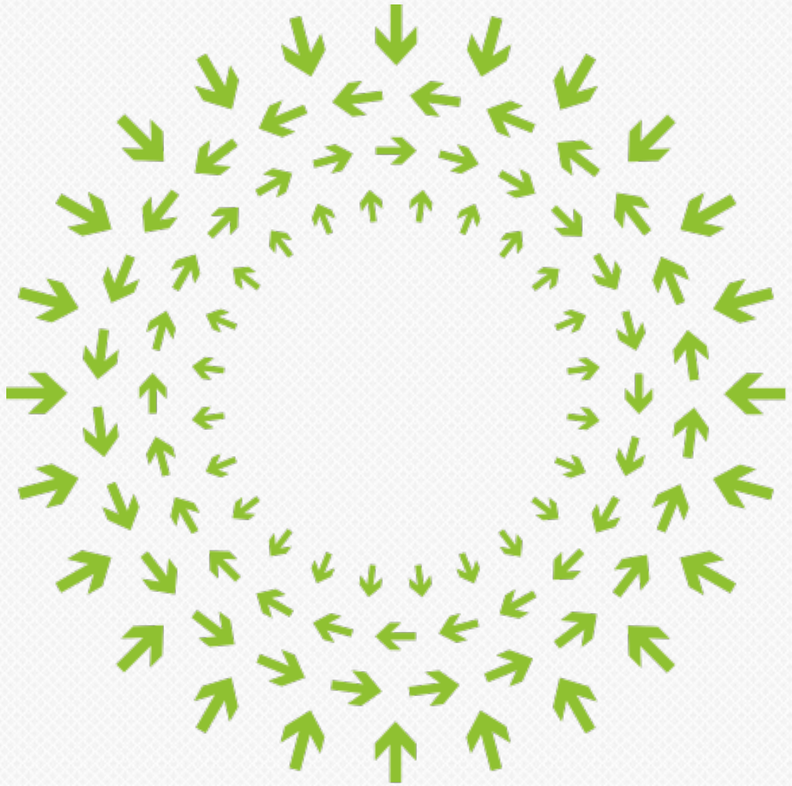

OPEN Compute Summit

Engineering Workshop

October 30-31, 2014

Paris

Capacity to Bigfoot

Lead with Kinetic and Rausch

Joe Fagan
Cloud Initiatives EMEA
Senior Director

Seagate

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CEO
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RAUSCH NETZWERKTECHNIK
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Why now is different

Then

Phenomenal Capacity growth

OEM centric

High value Storage stacks

Keep cost in the stack

HDD guys as servants

Channel was afterthought

Now

Drive “clumping” to very large pools

I.T. is what the CSP does

Complexity sprawl, tiering, SDx

Take cost out of the stack

Software Defined Data Centre

Channel central

Then

Cost of Straighteners = 2x disk drive!

HDDs had been relegated to commodity devices

Race to the bottom on cost and margin

Wrong device choices driven by uninformed procurement

HDD Vendors

Were not respected as thought leaders in storage architectures

Were not engaged with the rest of the storage community

SIs/CSBs/CSPs

Designed wonderful edifices without consulting HDD vendor

Assumed the future is a continuation of the past… “They will double capacity, halve $/TB and leave performance and reliability where it is.”

Why now is different

HDD Vendors

now have significant input into how storage is done

now contributing to the discussion and thought leadership

taking responsibility to engage further up the stack

me

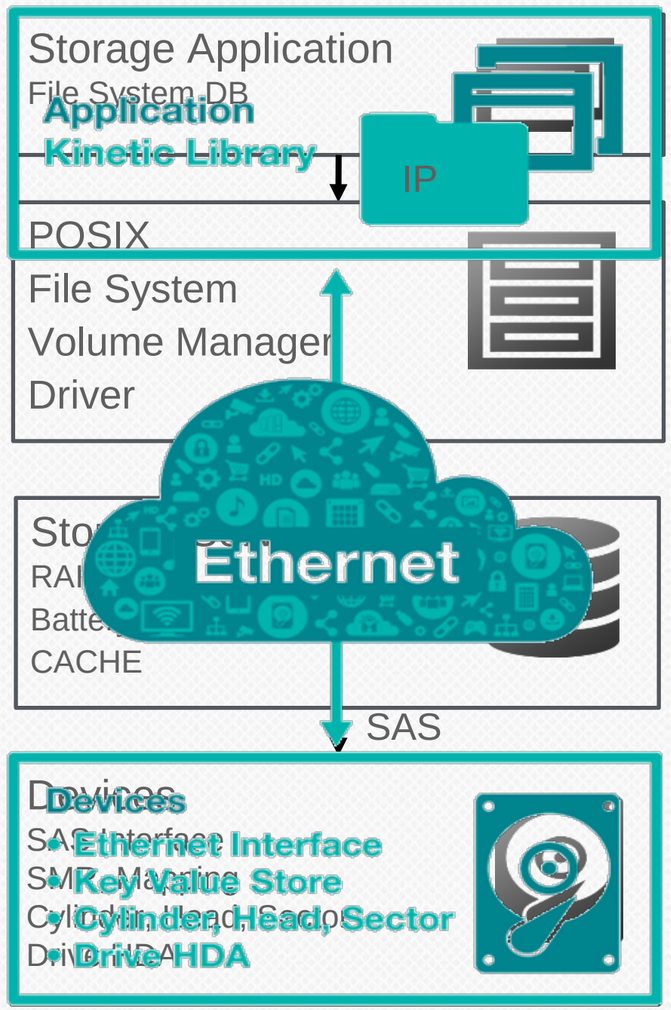
Seagate

is leading the way in these new engagements

engaging with all major CSPs and disk users WW

redefining the engagement with the rest of the industry

Witness Kinetic



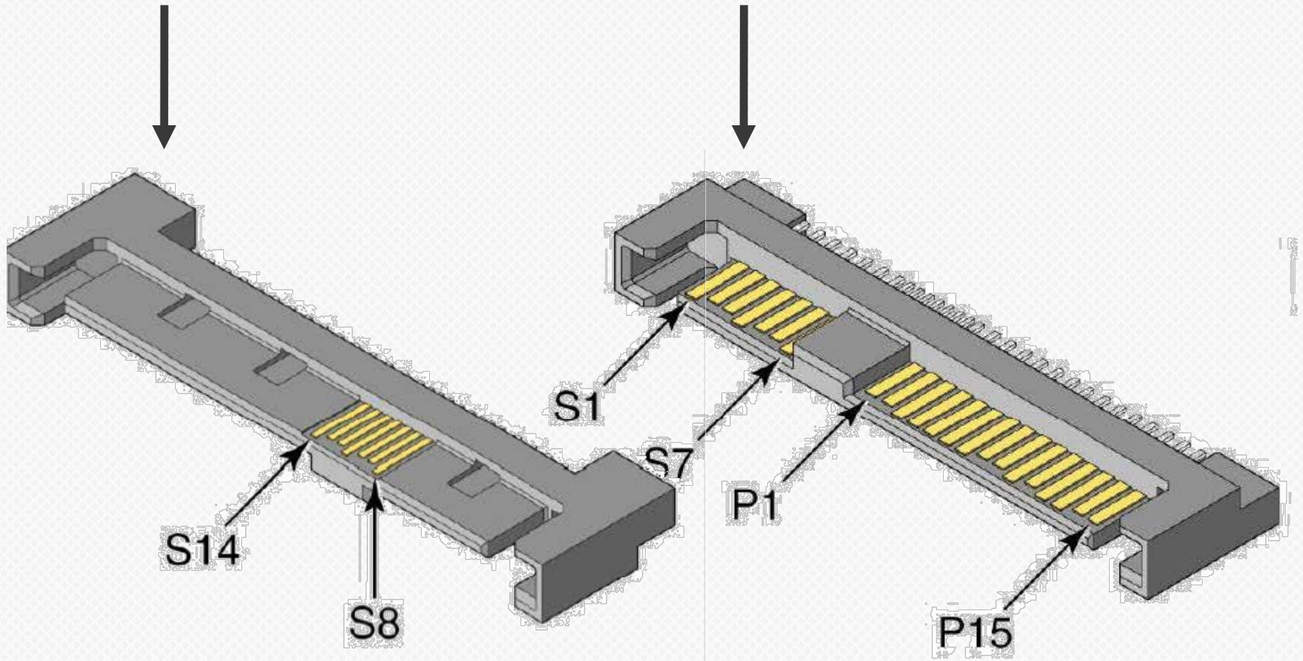
Standard Device Recording

Key/Value Interface

Ethernet Connectivity

Reused Form Factor:

- Connector re-pinned to carry Ethernet over old SAS pins
- Two Ethernet connections – was SAS dual port



Rausch Bigfoot:72 HDDs + Ethernet + power

SAS Connectivity

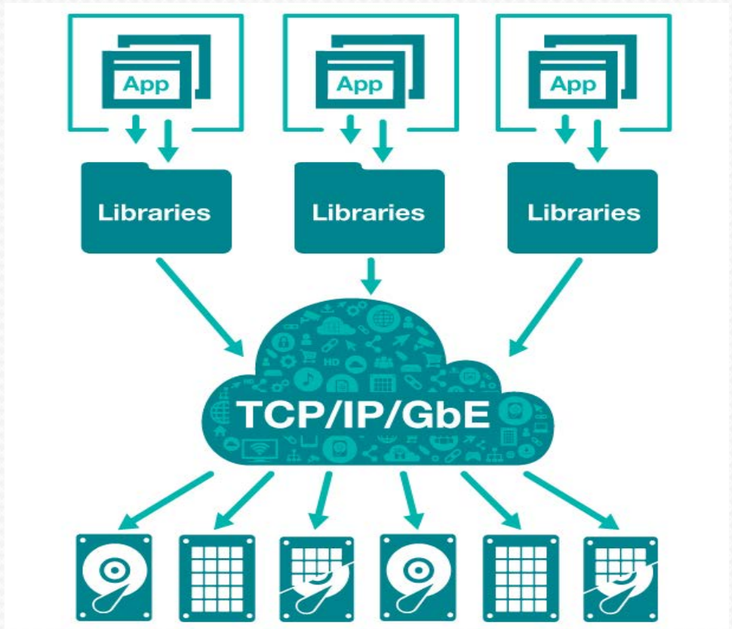
Kinetic Platform

Open Source Key/Value API and libraries

Open Source Interface Specification

Object storage software partners

Systems partners



Storage now fully disaggregated from compute

The European storage systems for Seagate Kinetic

History of BigFoot Storage family

- Rausch has more as 10 years experience in developing Hardware specialy for data center
- first BigFoot Storage developed in 2010
- In Apr ‘14 the first European storage for Seagate Kinetic with 72 HDDs in 4U / 19“
- In Oct ‘14 a prototype of the first European OCP storage with 54 HDDs in 2 ORU

BigFoot Storage Object

2014 WINNER DCS awards
Category
Datacentre ICT Storage Hardware
Product of the Year

BigFoot® Storagesystem Object

- 72 HDDs in 4U / 19“
- up to 288TB / system
- up to 2,880TB (about 2,8PB) / 42U
- 18x 1Gb/s or 4x 10GBaseT
- 1x IPMI port
- no SAS/SATA – no Mainboard
- highest densinity worldwide
- all HDDs are hot pluggable

Open BigFoot Storage Object

- 3x 18 HDDs = 54 HDDs in 2 ORU 21“
- up to 216TB / system
- up to 3,240TB (about 3,2PB) / Open Rack (15 rack units)
- 4x 10GBASET for 18HDDs
- 1x IPMI port for 18 HDDs
- highest density worldwide
- one power connector for each 18 HDDs
- all HDDs are hot pluggable

Details

3x 18 Kinetic HDDs hot swappable

4x 10 Gb/s LAN

Control LEDs and on/off switch

1x IPMI

Summary

- (Open) BigFoot Storage Object
  - is the first and only European system for Seagate Kinetic
  - has the highest density worldwide
  - is an „unlimited“ scale out storage
  - is part of the BigFoot Storage family
  - is „Made in Germany“

(Open) BigFoot Storage Object

Think Big, Start Small, Scale Fast

The Kinetic Open Storage Platform:

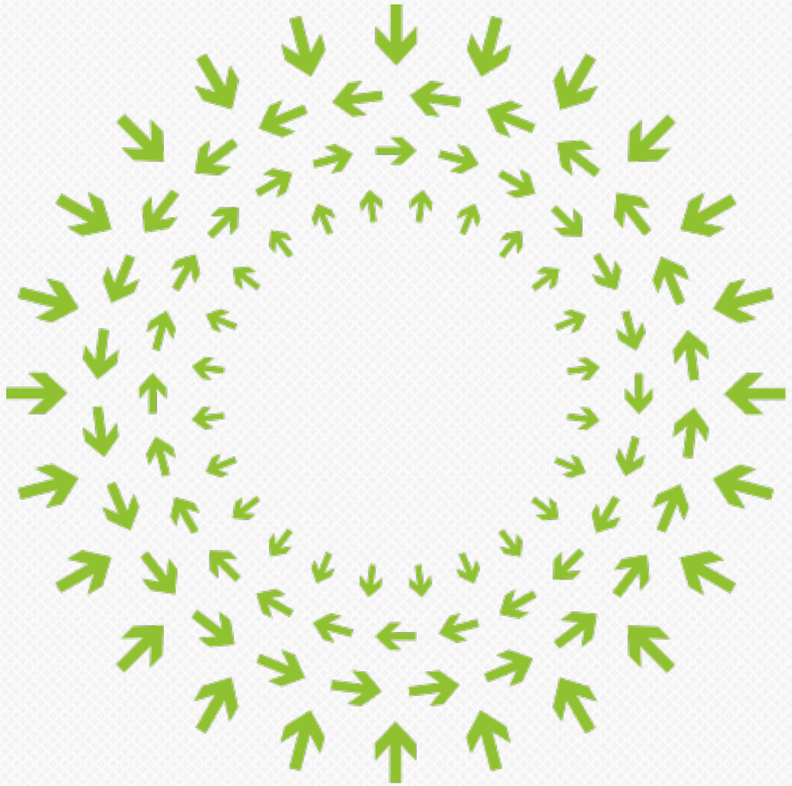
Summary

Lowers TCO

Disaggregates storage from compute

Improves performance

Increases innovation, agility and efficiency



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